

Application No. 10/786,866

Reply to Office Action

REMARKS/ARGUMENTS*The Present Invention*

The present invention relates to an improved formulation of vinorelbine and its use to treat cellular proliferative diseases. Claims 1-45 are currently pending in the application.

Discussion of the Claim Amendments

Claim 21 has been amended to more clearly recite the invention. Further, claims 2, 21, 22, and 27 have been amended to correct informalities. The amendments to claims 2, 21, 22, and 27 are supported by the disclosure as originally filed. No new matter has been added by way of these amendments.

The Office Action

The Office Action rejects claim 21 under 35 U.S.C. § 112 and the pending claims under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent No. 6,365,735 (hereinafter the "Rool '735 patent") and U.S. Patent No. 4,952,408 (hereinafter "the Rahman '408 patent"), further in view of U.S. Patent No. 5,800,833 (hereinafter the "Hope '833 patent") and U.S. Patent No. 5,648,090 (hereinafter the "Rahman '090 patent").

Discussion of the Section 112 Rejections

Claim 21 was rejected under 35 U.S.C. § 112 as allegedly indefinite. Claim 21 has been amended to remove cholesterol and alpha-tocopherol. Thus, the rejection has been rendered moot by the claim amendment and should be withdrawn.

Discussion of the Section 103 Rejections

The Office Action suggests that the pending claims are obvious in light of the Rool '735 patent and the Rahman '408 patent. The Rool '735 patent discloses a process for preparing vinca alkaloids of a certain formula. The Rool '735 patent merely notes that some of the derivatives of the formula are intermediates which can be utilized in the preparation of vinorelbine. The Rahman '408 patent discloses the encapsulation of the vinca alkaloids vincristine, vinblastine, and vindesine in liposomes. It presents actual data only on the encapsulation of vincristine.

In order to establish a *prima facie* case of obviousness, a suggestion or motivation to combine the references must be shown, and there must be a reasonable expectation of success. There is no motivation to combine the above references. The Rool '735 patent fails to suggest the liposomal encapsulation of vinca alkaloids of the disclosed formula, let alone vinorelbine. Indeed, vinorelbine was mentioned only as a possible final product resulting

Application No. 10/786,866

Reply to Office Action

from intermediates having the structure of the disclosed formula. The Rahman '408 patent only presents actual data relating to the encapsulation of one specific vinca alkaloid, namely vincristine. The two references solve very different problems – the Rool '735 patent relates to methods of preparing vinca alkaloids, whereas the Rahman '408 patent relates to a method of encapsulating three specific vinca alkaloids. Further, neither the prior art, nor the knowledge of one of ordinary skill in the art would serve as motivation to combine the two references. Vinorelbine differs from other vinca alkaloids in that it is modified at the carnathine moiety. Given the chemical differences between vinorelbine and the other vinca alkaloids, one of skill in the art would not assume that vinorelbine could be so easily substituted into a formulation that involves complex chemical interactions, such as liposomal entrapment and encapsulation.

Indeed, there is no reasonable expectation of success. As discussed above, the Rahman '408 patent presents data demonstrating the successful encapsulation of only one particular vinca alkaloid. The structural and chemical differences between vinorelbine and vincristine would be recognized by one of ordinary skill in the art, who could not logically assume that the liposomal formulation disclosed in Rahman '408 could be utilized to encapsulate vinorelbine. There is nothing to indicate that the disclosed method could be successfully used to encapsulate other vinca alkaloids, let alone vinorelbine specifically. Neither the Hope '833 patent, nor the Rahman '090 patent disclose vinorelbine or vinca alkaloids and thus fail to correct the lack of motivation to combine or a reasonable expectation of success. A *prima facie* case of obviousness has not been established, therefore the rejections should be withdrawn.

Application No. 10/786,866

Reply to Office Action

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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